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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------|------------------|
| 10/662,977   | 09/15/2003  | Dong-yang Lee        | 8021-165 (SS-17922-US) | 2257             |
| 22150  | 7590        | 02/28/2007           | EXAMINER               |                  |
| F. CHAU & ASSOCIATES, LLC<br>130 WOODBURY ROAD<br>WOODBURY, NY 11797 |             |                      | CHEN, ALAN S           |                  |
|  |             |                      | ART UNIT               | PAPER NUMBER     |
|  |             |                      | 2182                   |                  |
| SHORTENED STATUTORY PERIOD OF RESPONSE                               |             | MAIL DATE            | DELIVERY MODE          |                  |
| 3 MONTHS   |             | 02/28/2007           | PAPER                  |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|------------------------------|------------------------|---------------------|--|
|                              | 10/662,977             | LEE, DONG-YANG      |  |
| Examiner                     | Art Unit               |                     |  |
| Alan S. Chen                 | 2182                   |                     |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 19 December 2006.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-20 is/are rejected.

7)  Claim(s) 21 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 15 September 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/2006 has been entered.

### ***Response to Arguments***

2. Applicant's arguments, filed 09/25/2006, with respect to the rejection(s) of claim(s) 1-20 under 35 U.S.C. 102 and 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Pat. No. 6,574,688 to Dale et al. (*Dale*).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1,3-5,7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Dale.

5. Per claim 1, Dale discloses an integrated circuit device (*Fig. 2 and 3, element 200, the port manager controller*) comprising: a first port for inputting write data and outputting read data (*Fig. 2, element 200, any of the ports D-G are all bi-directional; Fig. 3, element 307 expressly shows this*); and a second port for only inputting write data (*Fig. 2, element 200, port C; Fig. 3, element 307; Column 5, lines 25-27, port C used for data input only, e.g., write to host*), wherein at least one of the first port and the second port is selected by an external command when the write data is input (*Fig. 3; Column 5, lines 10-15, each port has a read/write control line, in the case of port C, just a write line; the control line commands the port of port management controller and control signal can be generated external to the PMC*).

6. Per claim 5, Dale discloses an integrated circuit system (*Fig. 2*) comprising: an integrated circuit device (*Fig. 2, element 200*) that includes a first port for inputting write data and outputting read data (*Fig. 2, element 200, any of the ports D-G are all bi-directional; Fig. 3, element 307 expressly shows this*) and a second port for inputting write data (*Fig. 2, element 200, port C; Fig. 3, element 307; Column 5, lines 25-27, port C used for data input only, e.g., write to host*); and a controller for generating a command to select either the first port or the second port (*Fig. 2, elements 101-109, function modules generate the control command to the PMC over the control lines*

*shown in Fig. 3 for each port; Column 5, lines 10-15; control line selects whether to use a port or not, e.g., write command tells the port data will be written).*

7. Per claims 3,4,7 and 8, Dale discloses claims 1 and 5, further disclosing both first and second ports are selected by an external command when the write data is input, a control pin receiving the control signal (*Fig. 3, elements 301,303,305 and 309 all can access the ports given a command*).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 2 and 6 are rejected under 35 USC 103(a) as being unpatentable over Dale.

Dale discloses claims 1 and 5.

Dale does not disclose expressly the second port for the input write data having half the number of pins of the first port.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to recognize that when Dale is inputting data into the second port over the input pins of the port, then only the write pins/lines will be used.

It is well known in those of ordinary skill in the art that for full-duplex lines (e.g., *both input and output capability*), one must double the number of lines in that of a half-duplex communications (e.g., *only input or only output capability and not both*). Equal number of lines must be given to sending as with receiving data. Given that Dale has the same number of read data lines as write data lines, it is clear that the active lines being used in the second port where the second port is used *only* for writing data is exactly half of the total active lines/pins being used in the first port which is for both reading and writing.

11. Claims 9-15 and 16-20 are rejected under 35 USC 103(a) as being unpatentable over Dale.

12. Per claims 9 and 16, Dale discloses the first and second ports and selection by command line as previous stated for claims 1 and 5. Dale further discloses having buffers in each function unit (*Fig. 1, elements 101-109; Column 2, lines 25-35 disclose the need for buffers for each function module that associates with each port if there is a delay from the local bus in handling the incoming or outgoing data; Column 3, lines 3-14 disclose use of buffers in Dale system*). Fig. 3 shows each function module is associated with a port and thus, each port has a buffer.

Dale does not disclose expressly each buffer being in the port management controller (*element 200*) where each port exists, rather than being in the function

modules. Dale also does not disclose having a register for temporarily storing and output data from the buffers.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to place the buffers for each port in the port management controller as a matter of design choice instead of placing them in the function modules.

So long as the buffers exist at some stage before the main bus to the host, this can temporarily store the data until the host is able to access the buffers. Various design reasons can explain this choice, i.e., the cost to manufacture of the PMC with buffers for each port is less than placing in each individual function module, integration of the buffers with the PMC, access to the PMC to/from the bus is faster than access from each function module, etc. With regard to the registers, register use is well known to one of ordinary skill in the art as temporarily holding for a single data element and accessed when needed. The buffer stores several of these data elements, wherein the next data element to be presented from the buffer is usually stored in the register for faster access than if retrieved from the buffer itself.

13. Per claims 10-15 and 17-20 are substantially similar to claims 2-4 and 6-8 and therefore the rejections are applied accordingly.

***Allowable Subject Matter***

14. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is the statement of reasons for the indication of allowable subject matter: The prior art disclosed by the applicant and cited by the Examiner fail to teach or suggest, alone or in combination, *all* the limitations of the independent claim(s) (*claim 2*), particularly the second port having a quarter or less number of pins than the first port.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



2/26/07